

We claim:

1. A method of detecting the presence of at least one PDGFD antigen in a sample, comprising the steps of:

- a) providing a biological sample;
- b) contacting the sample with an agent that binds the antigen; and
- c) detecting the presence of the agent bound to the antigen;

whereby the presence of the agent indicates that the antigen is present in the sample.

2. The method of claim 1 wherein the antigen is either p85 or p35.

3. The method of claim 1 wherein the sample originates in a mammal.

4. The method of claim 1 wherein the sample originates in a human.

5. The method of claim 1 wherein the sample is blood or a component thereof.

6. The method of claim 1 wherein the agent is an antibody.

7. A method of determining the amount of at least one PDGFD antigen in a sample, comprising the steps of:

- a) providing a biological sample,
- b) contacting the sample with an agent that binds the antigen, and
- c) determining the amount of the agent bound to the antigen;

whereby the amount of the agent so determined correlates with the amount of the antigen in the sample.

8. The method of claim 7 wherein the antigen is either p85 or p35.

9. The method of claim 7 wherein the sample originates in a mammal.

10. The method of claim 7 wherein the sample originates in a human.

11. The method of claim 7 wherein the sample is blood or a component thereof.

12. The method of claim 7 wherein the agent is an antibody.
13. A method of contributing to a diagnosis of cancer in a subject, comprising the steps of:
 - i) providing a biological sample from the subject, and
 - ii) determining whether at least one PDGFD antigen is present in the sample;
 whereby a finding that the antigen is present indicates that the subject may have cancer.
14. The method of claim 13 wherein the determining comprises the steps of:
 - a) contacting the sample with an agent that binds the antigen, and
 - b) detecting the presence of the agent bound to the antigen.
15. The method of claim 13 wherein the antigen is either p85 or p35.
16. The method of claim 13 wherein the subject is a mammal.
17. The method of claim 13 wherein the subject is a human.
18. The method of claim 13 wherein the sample is blood or a component thereof.
19. The method of claim 14 wherein the agent is an antibody.
20. A method of staging cancer in a subject, comprising the steps of:
 - a) providing a biological sample from the subject;
 - b) determining the amount of at least one PDGFD antigen in the sample; and
 - c) correlating the amount with the stage of the cancer;
 thereby staging the cancer in the subject.
21. The method of claim 20 wherein the determining comprises the steps of:
 - i) contacting the sample with an agent that binds the antigen, and
 - ii) determining the amount of the agent bound to the antigen.
22. The method of claim 20 wherein the antigen is either p85 or p35.
23. The method of claim 20 wherein the subject is a mammal.

24. The method of claim 20 wherein the subject is a human.
25. The method of claim 20 wherein the sample is blood or a component thereof.
26. The method of claim 21 wherein the agent is an antibody.
27. A method of phosphorylating a tyrosine residue of a cellular receptor comprising the step of contacting a cell harboring the receptor with a PDGFD polypeptide.
28. The method of claim 27 wherein the receptor is a PDGF receptor.
29. The method of claim 27 wherein the receptor comprises a PDGF beta receptor.
30. The method of claim 27 wherein the receptor comprises a PDGF alpha receptor.
31. The method of claim 27 wherein the PDGFD polypeptide is chosen from the group consisting of a p85 polypeptide and a p35 polypeptide.
32. A method of stimulating a response in a cell that is specific for a PDGF beta receptor comprising contacting the cell with a PDGFD polypeptide.
33. The method of claim 32 wherein the PDGFD polypeptide is chosen from the group consisting of a p85 polypeptide and a p35 polypeptide.
34. A method of stimulating a response in a cell that is specific for a PDGF alpha receptor comprising contacting the cell with a PDGFD polypeptide.
35. The method of claim 34 wherein the PDGFD polypeptide is chosen from the group consisting of a p85 polypeptide and a p35 polypeptide.
36. A method of inhibiting the growth of a cell comprising contacting the cell with an agent that specifically binds a PDGFD polypeptide.

37. The method of claim 36 wherein the agent is an antibody that immunospecifically binds a PDGFD polypeptide.
38. The method of claim 37 wherein the antibody is a fully human antibody.
39. The claim of claim 36 wherein the PDGFD polypeptide is chosen from the group consisting of a p85 polypeptide and a p35 polypeptide.
40. An isolated nucleic acid comprising a sequence encoding a PDGFD polypeptide of SEQ ID NO:2.
41. The isolated nucleic acid of claim 40, wherein the polypeptide comprises the amino acid residues from position 247 through position 370 of SEQ ID NO:2.
42. The isolated nucleic acid of claim 40, wherein the polypeptide comprises the amino acid residues from position 249 through position 370 of SEQ ID NO:2.
43. An isolated polypeptide comprising a PDGFD amino acid of SEQ ID NO:2.
44. The isolated polypeptide of claim 43, wherein the polypeptide comprises the amino acid residues from position 247 through position 370 of SEQ ID NO:2.
45. The isolated polypeptide of claim 43, wherein the polypeptide comprises the amino acid residues from position 249 through position 370 of SEQ ID NO:2.
46. A method of preparing a PDGFD polypeptide comprising the amino acid residues from position 247 through position 370 of SEQ ID NO:2, the method comprising the steps of:
 - a) contacting a cell with an expression vector comprising the sequence comprising the nucleic acid encoding amino acid residues from position 247 through position 370 of SEQ ID NO:2;
 - b) culturing the cell so contacted; and
 - c) isolating the polypeptide from the cultured cells.

47. A method of preparing a PDGFD polypeptide comprising the amino acid residues from position 249 through position 370 of SEQ ID NO:2, the method comprising the steps of:

a) contacting a cell with an expression vector comprising the sequence comprising the nucleic acid encoding amino acid residues from position 249 through position 370 of SEQ ID NO:2;

b) culturing the cell so contacted; and

c) isolating the polypeptide from the cultured cells.

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